Remarks/Arguments

In the official action mailed December 3, 2007 the examiner rejected claims 1-9 under 35 U.S.C. § 103(a) over U.S. Patent No. 6,593,468 to Lange et al. ("Lange") in view of U.S. Patent No. 3,418,133 to Nijhoff et al. ("Nijhoff") and U.S. Patent No. 3,928,252 to Rigler et al. ("Rigler").

In response to the rejection, applicants provide the following distinguishing commentary, which is believed to place the present case in condition for allowance. Favorable reconsideration of all of the pending claims is respectfully requested.

Initially, concerning the objection to claims 4 and 5, applicants respectfully submit that claim 4 does indeed properly limit claim 1. More specifically, claim 1 characterizes gel forming CMC's by specific test method, and claim 4 limits those gel forming CMC's to only those having a DP > 1500. Thus, claim 4 further limits claim 1 by excluding CMC's having a DP of < 1,500 (see lines 6 and 7 of claim 1). In view of the foregoing, the objection to claims 4 and 5 is believed to be improper; reconsideration and withdrawal thereof is respectfully requested.

I. The Rejection of Claims 1-9 under 35 U.S.C. § 103(a) over Lange in view of Nijhoff and Rigler

The primary reference to Lange, which is an U.S. equivalent of WO 99/20657 discussed in the application (last lines of p. 3), does indeed disclose CMCs according to the present invention that are characterized in that they have a G' that is greater than G'' over the frequency range of 0.1-100 Hz when measured as indicated in claim 1, which basically means that these CMCs are "capable" of forming gels. It is also true that Lange discloses the use of these CMCs in food, cosmetics, and pharmaceuticals. However, Lange does not disclose or suggest the use of gel-forming CMCs in fruit-based products.

The Nijhoff and Rigler patents disclose state of the art CMCs and their use in fruit-based products; applicants respectfully submit that they do not alleviate the deficiencies of Lange.

Rigler discloses the use of CMCs in fruit-based products. For the CMCs of Rigler the dissolution in combination with salt does not require high shear but can be done using normal shear (see col. 2, ll. 36-46 and col. 4, ll. 4-11). The CMCs of the present invention are strongly thixotropic in aqueous solutions (see p. 5, ll. 17). The CMCs disclosed by Rigler are therefore clearly different from the CMCs according to the present invention, because thixotropic CMCs will not dissolve in a salt-containing aqueous solution using normal shear but require high shear to achieve dissolution.

The Nijhoff patent is discussed in the present application on page 1, last paragraph. Various CMCs are disclosed having a viscosity varying from about 10 mPa.s for a 2 % solution to 42,000 mPa.s for a 1% solution. All these CMCs have a degree of substitution (DS) of between 0.1 and 0.6, making them generally less suitable in aqueous media due to their relatively low solubility. It is further noted that Nijhoff discloses examples of fruit-based products in which a relatively large amount of CMC, i.e. exceeding about 3 wt%, is used. Use of such large amounts of CMC is undesirable. In low pH environments (i.e. acidic environments) typical for fruit-based products, the solubility of these CMCs is insufficient, resulting in incomplete dissolution of the CMC, which generally results in a sandy mouth feel of the fruit-based product.

As indicated in the present application at page 2, lines 6-11, use of the state of the art CMCs in fruit has certain disadvantages such as insufficient gelling properties, low solubility, and the requirement that they be used in high amounts. Consequently, in practice, the industry uses pectin instead of CMC in fruit-based products, which is disadvantaged in that there is limited possibility of using other solids in the fruit-based product.

The present inventors have found that the use of a CMC in accordance with the present invention in fruit-based products unexpectedly leads *inter alia* to an improvement in gelling properties, flowing properties, consistency, and stability. Additionally, use of these gel forming CMCs effectively prevents fluid loss or syneresis and these CMCs are soluble in both hot and cold water. This is advantageous over e.g. pectin, as the CMC is dissolved without requiring additional heating, leading to a significant saving of energy and a reduction of costs related therewith. At high temperatures the gelling properties remain unimpaired, avoiding flotation of fruit particles and resulting in a uniform distribution of fruit. A further advantage is that the use of CMCs according to the invention does not require a minimum level of soluble solids (e.g. sugar) as opposed to for example pectin.

Applicants respectfully submit that Nijhoff is the closest prior art to the invention, as a person skilled in the art wanting to overcome the disadvantages relating to the use of state of the art CMC, and most likely in practice using pectin (with all the attendant disadvantages) instead, would most probably first consult Najhoff. Applicants further submit that a person skilled in the art, knowing the disclosure of Nijhof, would not consult Lange with a reasonable expectation of solving the above problems, as Lange does not deal with removing such problems and primarily relates to an improved process to produce fiber-free CMCs. Further, Lange clearly does not disclose or suggest the use of gel-forming CMCs in fruit-based products.

In support of the rejection the Examiner alleges the following.

> "Since Lange, Nijhoff and Riegler all teach CMC based food product that employs high DP cellulose mixed with an alkaline solution, it would have been obvious at the time this invention was made for a person of ordinary skill in the art to have created a fruit based CMC with a high DP cellulose of the ranges claimed in an aqueous sodium chloride solution which will inevitably result in a storage modulus G' exceeding the loss modulus G" over a frequesny range as suggested and taught by Lange. (See last lines of p. 5, first lines of p. 6 of the office action)."

Applicants respectfully disagree in that creating fruit-based products containing a CMC with a high DP in an aqueous chloride solution does not inevitably result in a storage modulus G' exceeding the loss modulus G". Only specific CMCs have this G' over G" characteristic when measured according to the test method as given in applicants' claims (and as said before, finding this characteristic in the test method basically means that the CMC is gel forming). The G' over G" characteristic is neither inevitably related to the DP, nor caused by the test method used. Accordingly, applicants respectfully submit that the examiner's rationale for supporting the subject rejection is invalid and/or flawed.

Finally, applicants respectfully submit that contrary to what the examiner alleges on p. 5 , 2nd paragraph of the office action, the invention is not a difference in concentration or temperature. Rather, the invention defines parameters for selecting a specific group of CMCs for use in fruit-based products.

In view of the foregoing, applicants respectfully submit that the present rejection is improper; reconsideration and withdrawal thereof is respectfully requested.

Therefore, the present case is believed to be in condition for allowance, which action is respectfully requested.

Respectfully submitted,

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